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ABSTRACT

The data collection procedures for a study of a population of 2400 immigrant children in Sweden are described. Means, dispersions and intercorrelations for 22 variables are given. Social and emotional adjustment figures are found to be higher than expected, and correlate only minimally with second language achievement figures. It is concluded that the problem of immigrant adaptation is far more complex than is often assumed and that other variables than language, such as social, emotional, cognitive, perceptual, psychomotor, personality and cultural variables, are involved and may be as important as language. (Author/DB)

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educational and psychological interactions

Ekstrand, L. H.:

ADJUSTMENT AMONG IMMIGRANT PUPILS IN SWEDEN: SOCIAL, EMOTIONAL AND LINGUISTIC VARIABLES AND THEIR RELATIONSHIPS

No. 55 February 1976

ADJUSTMENT AMONG IMMIGRANT PUPILS IN SWEDEN: SOCIAL, EMOTIONAL AND LINGUISTIC VARIABLES AND THEIR RELATIONSHIP

Lars Henric Ekstrand

Ekstrand, L.H. Adjustment among immigrant pupils in Sweden: Social, emotional and linguistic variables and their relationship. Educational and Psychological Interactions (Malmö, Sweden: School of Education), No. 55, 1976.

The data collection procedures for a study of a population of immigrant pupils in Sweden are described. Means, dispersions and intercorrelations for 22 variables are given. It is claimed that the adjustment is not as bad as has been feared. Second language achievement does not automatically promote good social and emotional adjustment.
The paper was presented at the symposium on Immigrant and Minority Group Problems of the 18th International Congress of Applied Psychology, Montreal, 1974. The research described was supported by The Foundation for Cultural Exchange between Sweden and Finland.

Keywords: Adjustment, second languages, bilingualism, cross cultural, migration, acculturation, minority groups.

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1. BACKGROUND

1.1 The European situation

After the world-wide depression during the twenties, economic growth and industrialization in Europe rocketed during the thirties. This also meant urbanization and centralization to the cities, expecially in Western and Northern Europe. The consequence of this, in turn, was an onset of migration. Sweden, e.g. turned from an emigration into an immigration country (Olofsson, 1974). This general tendency was broken by World War II. During the war period, a great number of refugees from Esthonia, Latvia, Norway and Denmark came to Sweden, it being a neutral country.

After the war, the economic process again shot forward, at an accelerating rate. Migration increased rapidly, within and between countries. The general migration pattern since the war has been that people have moved from the countryside to the cities. Between countries, this means that people have moved mainly from the Eastern and Southern parts of Europe to the Northern and Western parts, i.e. from countries like Spain, Italy, Yugoslavia, Greece, Turkey, Czechoslovakia, Hungary, East Germany, Finland, Norway and Denmark to countries like Switzerland, France, England, Holland, Belgium, West Germany and Sweden.

Owing to political incidents a wave of refugees now and then has moved from a particular country, e.g. Hungary in 1956 and 1957, or migration has ceased, e.g. from Czechoslovakia or Greece after 1968. The great bulk of migration in Europe, however, has been due to economical factors, i.e. has been a transference of labour power. In West Germany, the expression "Gastarbeiter" or "guest workers" was coined.

1.2 The Swedish situation

In Sweden, the immigration of working power did not really catch on until the late fifties. One or two of the bigger industrial enterprises had hired Italian workers immediately after the war, but these were exceptions. In the late fifties and the early sixties industrial companies started systematic recruiting campaigns in several of the emigrant countries mentioned above. The Swedish labour authorities helped to set up recruitment camps in several places in Europe. One indication of immigration is the number of employed immigrants, which is shown in table 1. The figures are taken from the quarterly statistics, issued by the National Board of Immigration.

Table 1. Number of immigrants to Sweden, registered by labour authorities as employed

Year	Number	Year	Number	Year	Number	Year	Number
1947	61,000	1954	114,000	1961	114,000	1968	172,000
1948	70,000	1955	110,000	1962	122,000	1969	176,000
1949	87,000	1956	124,000	1963	130,000	1970	209,000
1950	90,000	1957	135,000	1964	133,000	1971	229,000
1951	104,000	1958	128,000	1965	145,000	1972	219,000
1952	118,000	1959	104,000	1966	162,000	1973	221,000
1953	119,000	1960	106,000	1967	176,000	1974	233,000

The total number of immigrants in Sweden is much higher. In 1968 there was a total of 306,000 immigrants, duly registered (The Commission on Immigration, 1971). The amount of illegal immigration is unknown.

Most of the immigrants come from Finland (50 %). 9 % come from Danmark, 8 % from Yugoslavia, as many from Norway, 6 % from Germany, 2 % from Italy and about 1 % from each of the countries USA, Austria, Great Britain, Hungary, Spain, Poland, Turkey and Czechoslovakia. About 120 countries are represented (The Commission on Immigration, 1971).

By the end of 1969 there were about 58,000 foreign[1] children between the ages 7-17 years registered (The Commission on Immigration, part 1). The number of unregistered children is unknown, but the possibility that it is quite high cannot be excluded. The Swedish compulsory school includes the ages 7-15 years. There are about 900,000 children in grades 1 to 9 in the comprehensive school. The percentage of foreign children, therefore, seems to be around 6 %. Most of these children were born in Sweden. In 1968 2,454 children actually immigrated. For 1969 the corresponding figure is 5,221 children between the ages 7-14.

The immigrants in Sweden are not evenly distributed over the country, but concentrated in industrial cities and towns in middle and Southern Sweden. In some schools in these places, the percentage of foreign children is as high as about 30 %. About 60-65 % of the foreign children are Finnish, the rest representing more than a hundred nationalities.

1.3 Action taken by the authorities

In the middle of the fifties, it was decided that three or four hours tuition a week for the elementary teaching of Swedish to immigrant pupils was to be paid for by the government. In 1966 the number of weekly hours was increased to six, and in 1968 regulations for these six hours were changed, so that they might be used for different purposes, e.g. the teaching of the

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1) When a clear distinction is desirable, "foreign" is used for pupils of foreign extraction, even if born in Sweden, while "immigrant" is used for pupils who have actually immigrated, cf. p. 8.

pupil's native language. In the bigger communities, the six hours are used to give the immigrant pupils full time teaching in Swedish and the native language for about 4-6 weeks. The pupils are then gradually put into their ordinary classes, starting by athletics, art and handicraft, then mathematics (and sometimes English!) and lastly other subjects.

Teacher training has been largely inadequate in this area in Sweden. Summer in-service training courses, admitting 40-50 teachers each year, have been arranged. In 1972, 160-hour courses in "Swedish as a foreign language" started for elementary school teachers at two teacher training colleges ("Schools of Education"). It has been the present author's pleasure, being a member of the committee which set up this course, to manage to introduce educational psychology and social science into the course, thereby broadening the adjustment concept from being linguistic only, to comprising social and emotional adjustment as well.

In 1969, various government committees, dealing with immigrant questions, were replaced by the National Board of Immigrants.

In 1966, the National Board of Education got its first full-time official dealing with the education of immigrant pupils. Up to 1966 immigration to Sweden was free. In 1967 restrictions were put into force, to the effect that no labour from outside the Scandinavian countries could come to Sweden without a working permit. The Scandinavian labour market, however, has remained free.

1.4 Purpose of the present study

In 1966, the number of foreign pupils in the Swedish comprehensive school was unknown. This is true even today, owing to lack of official statistics. Nor was it known how many foreign pupils received tuition in Swedish or how many pupils were in need of, but not receiving tuition. Very little was known about teaching methods, materials or effectiveness of teaching.

It was decided to carry out a pilot study of the situation of the immigrant pupils in the nine year compulsory comprehensive school in Sweden. As the discussion about the adjustment process at the time was mainly concerned with language - as it tends to be even today - the emphasis of the study was laid on language acquisition problems. The role of the native language, of age and of length of residence were among the variables considered important to investigate.

During the period of data treatment, it became increasingly apparent that other variables than language are of importance for the adjustment.

Emotional, social, cognitive and perceptual variables seem to play an important role. In the public debate, however, these variables, so far they are recognized, are linked to language and more or less explicitely believed to be dependent on the language acquisition (Heyman, 1970; Lindbo, 1971).

As there are some data on other variables than linguistic included in the study, it seemed worth while to consider them more carefully than originally intended. This report thus deals with the social and emotional adjustment of immigrant children and the relationship betweer these variables and some linguistic and cognitive variables.

The main part of the study will be reported later.

2. METHOD

2.1 Mapping a population

It is not easy to define what is to be included in the concept of "immigrant". Is it any person of foreign extraction, regardless of citizenship, or is it any person, not having Swedish citizenship? Official statistics uses the criterion of civil registration. Any person, who has moved from abroad is an immigrant, but he may well be a Swedish citizen, by birth and extraction. The term "foreign" is used in this paper, as suggested by the Royal Commission (1971), in a very broad sense, comprising most foreigners and their children, also the children born in Sweden. Tourists, business people and the like are not included in this concept.

In 1966, when the data collection of this study was carried out, no official statistics concerning the school situation of the immigrant children was available. Every child in the comprehensive school is registered, but citizenship or any other criterion of immigrantship was not, and is still not, used as a variable. A separate account for the number or kind of immigrant children in the school system could not, therefore, be given by the National Bureau of Statistics. The civil registration procedure did not use magnetic tapes until 1967, so no central population register was available at the time.

It was thought that the best way was to approach the schools to find out if they had any foreign children, rather than the Halls of Records. We suspected that many immigrants did not register properly. The following three stage data collection procedure was applied.

1. We decided to write to every school, belonging to the comprehensive school, in order to find out how many schools had any immigrant

children. The only safe population criterion seemed to be that the child received tuition in Swedish. This would exclude all immigrant children who needed tuition, but did not get any. To ask for "immigrant children" or "foreign children" in general was on the other hand thought to be too diffuse a criterion. It was suspected that many head masters did not know the citizenship or extraction of all their pupils.

2. When the number of schools with immigrant pupils had been established, a second questionnaire was to be sent out to get more detailed information about the pupils.

3. This would give a reasonably safe basis to decide whether a sample or the whole population could be more thoroughly investigated, by means of tests.

2.2 The questionnaires

The first questionnaire to the headmasters contained two questions only: "Have you any foreign pupils, receiving special tuition in Swedish?

( ) Yes ( ) No

If Yes, what is the name(s) of the teacher(s), handling the tuition?" The shortness of the questionnaire was calculated to maximize response frequency. The questionnaire was sent out on February 15th, 1966 as an official request from the National Board of Education. Reply was to be sent in immediately. Though most questionnaires were sent in promptly, some kept trickling in towards the end of March. No reminder was sent out.

The second questionnaire contained questions about the pupil concerning age, sex, nationality and various other things. The main items are given in table 3 below. This questionnaire was sent out on March 25th, 1966, to all schools which had answered in the affirmative on questionnaire 1 or had not answered that questionnaire. Answers kept coming in until the middle of May. No reminder was sent out.

2.3 The tests

The tests belong to one of three domains: pure language tests (Swedish), intelligence tests and tests of reading skill.

The language tests consist of six subtests, which were constructed for this investigation.

Pronunciation. Imitation, which is recorded on tape, of 12 standard phrases, read from a sound tape. The recordings are rated with respect to quality of separate sounds and all over quality.

Dictation.	A piece, consisting of 11 phrases, is read from a tape. Each phrase is read three times. The pupil is to write down the phrases. Number of correctly written words is scored.
Listening comprehension.	51 phrases are read from a tape. A series of 5 pictures belong to each phrase (255 pictures in all). The pupil is to choose the picture that best illustrates the phrase. He does not need to be able to read and write, but indicates the picture chosen with a pencil mark.
Reading comprehension.	The same 51 series of pictures are used again, with a phrase printed below each series. Of course, the phrases differ from the listening comprehension test. The pupil does not have to be able to write, just checks the right picture.
Free oral production.	The pupils are to describe the content and happenings in three pictures. The answers were recorded, and the recordings rated.
Free written production.	The pupils are to describe the content and happenings in one picture. The sketches are rated.

Thus, four out of the six tests measure active skills on the part of the pupils. The intelligence tests consist of a non-verbal test for each of the R, N and S factors according to the Thurstone classification, called DBA 4, DBA 7 and DBA 8, respectively. These group tests are standardized for a population of Swedish pupils (Härnqvist, 1962).

The reading skill tests consist of three individual subtests, each consisting of a short piece to be read aloud. The time limit is two minutes for each test. Number of words read, time (if the reader does not need two minutes), and number of errors are scored.

The tests were sent out in the middle of April. The teachers were asked to carry out the testing as completely as possible and return all test materials, used or not, by May 20th, 1966.

As the second questionnaire gave a figure of about 2,000 pupils, it was possible to distribute the tests to all pupils. There were two exceptions, however. The intelligence tests do not function well below grade 4 and are consequently standardized only for grades 4 through 9. As no non-verbal intelligence test, possible to administer in spite of incomplete verbal communication between teacher and pupil, exists in Sweden, no intelligence test was administered to pupils in grades 1 through 3. The tests of pronunciation and oral production were to be recorded on tape. For economical reasons every third pupil was selected and the teachers asked to carry out these two tests for the pupils indicated to them.

To answer questionnaires and carry out tests is not compulsory for Swedish teachers. In order to get complete data, we had to rely on their

good will. As the present author at the time was with the National Board of Education, all questionnaires and tests were covered by letters with an official request.

3. RESULTS

3.1 Return of data

3.1.1 The questionnaire to the headmasters

According to official statistics (Yearbook for Swedish Local Government Authorities, 1966) there were 1,001 L.G.A.s (= urban or rural administrative units) this year. In ten of them, the schools were administered from larger neighbour L.G.A.s. Out of the 991 school L.G.S.s, 929 (93.7 %) answered in the affirmative or negative. 62 communes (6.3 %) did not answer.

Counting the schools (= administrative units with a headmaster) within L.G.A.s, 1,233 out of 1.390 existing schools answered in the affirmative or the negative. The second questionnaire, which was also used as a reminder to schools with no answer, gave another 81 schools with immigrant pupils, giving a total of 1,314 (94.5 %) responses. 76 schools out of the 1,233 (5.5 %) did not answer. 483 schools reported having immigrant pupils.

3.1.2 The questionnaire to the teachers

From 436 out of 483 schools (34.7 %) with immigrant pupils 2,188 completed questionnaires were returned.

The distribution of pupils over nationalities and grades is given in table 2.

The response frequencies for the various items of the questionnaire to the teachers are given in table 3.

3.1.3 The tests

The number of language tests completed varies from 1,423 for the Listening comprehension test (LCT) to 1,123 for Free written production.

The intelligence tests vary in number from 269 to 763 out of about 1,245 possible cases. The Pronunciation tests are recorded for 320 pupils out of about 700 asked for.

The number of tests returned are given in table 4, which also contains means, range and standard deviations for all test variables and the adjustment questions, the answers of which have been transformed into a five-point scale. This procedure will be further described below.

Table 2. The distribution of immigrant pupils by nationality and grade

Nationality	Grade 1	2	3	4	5	6	7	8	9	grade unknown	Total
Australia				1			1				2
Belgium					1	1			1		3
Brazil						2					2
Bulgaria								2			2
Canada			1		2		1				4
Czecho-Slovakia									1		1
Denmark	5	5	6	4	7	3	4	1			35
Egypt					1						1
England	2		3		1	1	1				8
Finland	260	180	168	189	171	175	126	50	16	17	1352
France	1		2	2	1		1	1			8
Germany	8	3	2	3	3	3	5	4			31
Greece	17	11	14	27	13	14	4	3	2	3	108
Haiti								1			1
Holland	1				1						2
Hungary	5	3	8	6	3	4	7	2			38
India	1										1
Indonesia			1								1
Israel	1	1		1	1						4
Italy	11	5	6	6	7	3	7	2		1	48
Kenya								1	1		2
Korea				1							1
Liberia								1			1
Norway	2			1	3	2		1			9
Pakistan					1						1
Persia				1	3				1	2	7
Poland	7	2	7	3	4	5	2	5			35
Portugal	1		1	1							3
Rumania	1		2	1		1					5
Russia	1										1
South Africa							1				1
Spain	6	1	3	6	6	6	2	1			31
Sweden			1		1		2		1		5
Turkey	2		6		5	8	4	1		1	27
USA	6	5	11	6	8	10	5	4	1		56
Yugoslavia	58	38	51	45	57	52	30	17	2	1	351
Total	396	254	293	304	300	290	203	98	25	25	2188

Table 3. Response frequencies in the questionnaire to the teachers

	Variable	Percentage of "responses"	Percentage of "no information"
1	Time of arrival in Sweden	96.5	3.5
2	Father's occupation in Sweden	92.8	7.2
3	Father's occupation in native country	64.5	35.5
4	Mother's occupation in Sweden	77.6	22.4
5	Mother's occupation in native country	53.4	46.6
6	Number of children in family	84.2	15.8
7	Grade in spring term, 1966	97.6	2.4
8	Ordinary or special class	97.8	2.2
9	Weeks of tuition in Swedish in spring, 1966	87.3	12.7
10	Number of weekly hours of tuition, same term	86.5	13.5
11	Tuition in Swedish in fall, 1965	74.8	25.2
12	Number of weekly hours, same term	76.1	23.9
13	Tuition before fall, 1965	73.9	26.1
14	Kind of teaching materials used	90.8	9.2
15	Way of using materials	76.8	23.2
16	Achievement on start of tuition	96.2	3.8
17	Progress in school work	87.8	12.2
18	Adjustment to mates (social adjustment)	88.6	11.4
19	Adjustment on the whole (emotional adjustment)	46.8	53.2
20	Further information, like progress in Swedish	61.6	38.4
21	Nationality	100.0	0.0

Table 4. Descriptive statistics for all measurement variables

Variable		Mean	Scale	Standard deviation	Number of pupils
1	Progress in school	2.95	1-5	.95	1916
2	Social adjustment (getting along with school mates)	3.50	1-5	.87	1932
3	Emotional adjustment (feeling at home)	3.51	1-5	.82	1020
4	Progress in Swedish	3.20	1-5	.91	1343
5	Listening comprehension	43.97	0-51	7.56	1423
6	Reading comprehension	39.85	0-51	12.65	1378
7	Reading test 1 (RLS 1) time	77.42	0-120	38.74	1330
8	Reading test 1 (RLS 1) words	56.79	0-60	8.99	1340
9	Reading test 1 (RLS 1) errors	4.24	0-60	4.70	1340
10	Reading test 2 (RLS 2) time	66.17	0-180	50.97	1327
11	Reading test 2 (RLS 2) words	49.12	0-50	4.62	1336
12	Reading test 2 (RLS 2) errors	3.14	0-50	3.77	1333
13	Reading test 3 (RLS 3) time	100.38	0-180	51.77	1272
14	Teading test 3 (RLS 3) words	60.31	0-63	8.60	1280
15	Reading test 3 (RLS 3) errors	7.32	0-63	5.91	1279
16	Intelligence test 1 DBA 4	16.49	0-30	7.00	269
17	Intelligence test 2 DBA 7	6.63	0-10	2.03	274
18	Intelligence test 3 DBA 8	33.93	0-48	10.84	763
19	Dictation	55.41	0-70	17.99	1216
20	Free written production	4.86	1-9	1.93	1123
21	Pronunciation (2 raters)	126.18	24-168	24.47	268
22	Pronunciation (4 raters)	229.27	48-336	49.99	131
23	Free oral production (2 raters)	28.76	6-42	8.48	234
24	Free oral production (4 raters)	51.69	12-84	18.78	97

3.2 Representativity

Of the 6.3 % of the L.G.A.s which did not answer questionnaire 1 it is likely that only a few had any immigrant pupils. (See section 3.3.) The 2,188 pupils may thus be counted as the population of immigrant children, given tuition in Swedish. This supposition gains support from the following facts.

The 1968 Royal Commission on the Social Adjustment of Immigrants (1971) writes:

"During 1968 and 1969 2,454 respectively 5,221 foreign children in the ages 7-14 years immigrated to Sweden. Deducting Norwegian and Danish citizens and an assumed number of Swedish speaking Finns, there remains about 1,950 respectively 4,350 children, ..., who presumably were not able to manage the Swedish language."

The same source says that by the end of 1969 there were 57,774 foreign children registered in Sweden, most of whom were born in Sweden.

The 1964 Royal Commission on the School Situation for Swedish Children Abroad and Returned from Abroad, in the autumn of 1964 made an inquiry to all compulsory schools about the number of such children and included a question about foreign children. They found that the headmasters considered 2,467 foreign children as being in need of special tuition in Swedish and that 1,902 children received such tuition.

The following figures, taken from the official population statistics are also of interest. The number of foreign children of school age, about one and a half year later than our data collection, is given in table 5, and is shown to be close to 40,000. The figure for April the previous year must be lower.

Table 5. Number of children of school age, registered as foreign citizens in Sweden on November 1st, 1967

Age	Frequency	%
07-09	16,481	41.25
10-12	13,287	33.25
13-15	10,224	25.50
Total	39,992	100.00

The number of foreign children, actually immigrated in the years 1964-66 is given in table 6. The number varies between 3,000 and 4,000. There is a considerable amount of return migration. The number of children who have emigrated is given in the same table, but these figures probably also include Swedish children. It may, however, be concluded that the net number of pupils who immigrated during these years is somewhat more than 2,000.

Table 6. Immigration in Sweden of children in school ages 1964-66

Age	1964	1965	1966
6	540	-	-
7	492	559	-
8	437	488	468
9	402	434	430
10	356	421	424
11	340	363	370
12	313	360	342
13	278	339	313
14	256	306	298
15	-	469	440
16	-	-	611
Total	3414	3739	3696
Emigration	1340	1119	1331
Net sum	2074	2620	2365

89 % of the pupils of this study have immigrated during the years 1964-66, and the rest during the years 1958-63. Only 23 children are reported to be born in Sweden. This means that almost no children, belonging to the majority of immigrant children, namely those born in Sweden, have been given tuition in Swedish. This observation in confirmed by other authors (Chaib, 1974). The need of tuition for children born in Sweden was recognized by the authorities towards the end of the sixties, but the development has been slow (ibid).

39 % of the pupils are 8-10 years old, 37 % are 11-13 and 20 % 14-16 years old. The age distribution can be seen in more detail in table 2. The pupils are 8 years in grade 1, 9 in grade 2 etc. The correlation between age and grade is almost perfect, i.e. the pupils are with very few exceptions placed in the grade where they should be, according to Swedish regulations.

The following conclusions may be drawn. The 2,188 pupils of this study can be defined as 90 % (see section 3.3.1) of the population of pupils of foreign extraction, who have actually immigrated to Sweden, who have been considered in need of special tuition in Swedish and who have been given such tuition in the spring of 1966.

The number of pupils checks very well the figure for 1964, which was 1,902 such pupils (actual data) and the figure for 1968, which was about 1,950 such pupils (estimated data). In fact, the estimate for 1968 is probably too low. The fact that we are working with a population, not a sample, is advantageous from a statistical point of view. All data are significant and variables with quite a high number of missing data may be used in the further treatment, as data are valid for at least the part of the population for which they exist.

The population of this study is probably representative for similar populations with respect to important variables like immigration, lack of command of the new language, the problem of adjustment to a new environment and to a new school situation, just to mention a few. Even if similar populations may vary with respect to the composition of nationalities and other background data, many generalizations are possible. Such populations are immigrant pupils in Sweden in other years than 1966 and immigrant pupils in other industrial countries. The findings of this study then, could prove valuable per se and furthermore be a good starting point for further research.

3.3 Missing data

3.3.1 Number of pupils

Of the 62 L.G.A.s, with 76 schools, which did not answer the questionnaires, 52 were small rural L.G.A.s, which in all probability had no immigrants. Seven were small size cities in areas of economic stagnation, probably with few, if any, immigrants. Two were small L.G.A.s with industries and may well have had immigrants. The last L.G.A. is situated close to the border to Finland. If Finnish children move across the border, they are not regarded as immigrants, according to the local authority.

Concerning the teacher questionnaire, there is a loss of 47 schools in 46 L.G.A.s which admittedly had immigrant children, i.e. 9.7 % of the 483 schools. These L.G.A.s seem to be representative for the rest. Five of these L.G.A.s are minor cities, the rest being rural L.G.A.s with an industrial town as a centre. Extrapolating, there should have been two hundred and forty-odd pupils in these L.G.A.s, giving an assumed size of the population of around 2,400 pupils. Anyway, a reasonably safe conclusion is that teacher questionnaires have been obtained for about 90 % percent of the population.

3.3.2 Questionnaire data

The missing data for the various questions of questionnaire 2 are given in table 3. In 11 out of 21 variables, the percentage is less than 15 %. For six variables it is between 15 and 26 % and for four variables between 35 and 53 %.

The high percentage of "No information" for some questions is in most cases easy to explain. For the variables 3-5 and 11-13 the answers must have been unknown to the teachers in many cases. For variable 19, "Adjustment on the whole" inspections shows that the teachers in many cases have given all their information in the previous question (variable 18).

A few questions, like the number of brothers and sisters had been ambiguously worded and are not included in table 3.

3.3.3 Test data

The tests have been completed to a very varying degree. There are many reasons for this. Some tests are not possible to carry out with too young children or children newly arrived. Whatever the reasons may be, the question which interests us is whether the drop-out is systematic in a way which invalidates the results or not.

To test for this, point biserial correlations were run between the dichotomy "test completed/not completed" for each variable against the test values for each of the other variables. A high correlation indicates that the missing results have come about in a systematic way, i.e. are related to bad or good performance in other variables. The correlations are given in table 7.

Table 7. Point biserial correlations between drop-out and test performance

$r_{p_{bis}}$	f	%
.31 - .40	4	1
.11 - .30	38	6
-.10 - .10	435	75
-.11 - -.30	67	12
-.31 - -.40	4	1
not possible to calculate;too few cases	28	5
Total	576	100

As is seen from table 7, the missing data of the measurement variables (see table 4) are not systematically related to the performance in these variables.

3.4 Emotional and social adjustment among immigrant children according to teacher judgements

Lately, it has been argued that the frequency of emotional disturbances among immigrant pupils is alarmingly high, that the disturbances are grave and that extraordinary measures should be taken. It is claimed that symptoms of aggression and depression, as well as psychosomatic disturbances like stomach pains, headaches and so on, are very common (see e.g. Gelinek, 1974).

Some of the questions in the teacher questionnaire seems to cast some light on the state of mental health among the immigrant pupils. The exact wording of these questions is this.

a) How, according to Your or Your fellow teachers' judgement, does the pupil manage the other work at school?

b) How does the pupil seem to get along with his mates?

c) How does the pupil seem to get along otherwise?

d) Comments (to the information given or otherwise), additional information, e.g. on progress or lack of progress, etc.

The questions a and b are fairly unambiguous in the wording. The questions c and d were analyzed with respect to content. The contents of question c fall into three categories, as shown by table 8.

Table 8. Contents of question c, "How does the pupil seem to get along otherwise?"

Category	Frequency	% of answers given
Description of emotional reactions	294	30.1
Straightforward answers like good, bad etc.	652	66.9
Answers not related to the emotional status	29	3.0
Number of pupils	975	100.0

The words used (here translated "get along"), according to the author's opinion, usually imply a state of emotional balance. If one accepts this, 97 % of the answers given probably express the teachers' opinion of the emotional status of the pupils.

The analysis of the answers to question d gave the following result, table 9.

Table 9. Answers to question d, "Additional information"

Category	Frequency	% of answers given
Progress in Swedish	1.104	76.6
Emotional observations	136	9.4
Other	201	14.0
Number of pupils	1.441	100.0

The answers to question d will be regarded as essentially a measure of the pupils' progress in Swedish as judged by the teachers.

The teacher judgements of progress in the school work, of social adjustment, of emotional adjustment and of progress in the Swedish language, were put to a quantitative analysis. The teacher descriptions

were coded into a five-point scale, where 1 = very bad adjustment, 2 = rather bad adjustment, 3 = fair adjustment, 4 = rather good adjustment and 5 = very good adjustment. Checks on the reliability of the coding were made with satisfactory results. The figures are shown in table 10.

Table 10. Teacher judgements coded into five-point scales

	school progress		social adjustment		emotional adjustment		progress in Swedish	
1. Very bad	86	4.5	16	0.8	12	1.2	25	1.9
2. Rather bad	561	29.3	339	16.0	128	12.5	294	21.9
3. Fair	729	38.0	421	21.8	250	24.5	485	36.1
4. Rather good	441	23.0	1061	54.9	583	57.2	460	34.2
5. Very good	99	5.2	125	6.5	47	4.6	79	5.9
Number of pupils	1916	100.0	1932	100.0	1020	100.0	1343	100.0
Mean	2.95		3.50		3.51		3.20	
Standard deviat.	0.95		0.87		0.82		0.91	

The teachers have to some extent managed to differentiate between the different kinds of adjustment. School progress has the lowest mean and the largest dispersion. In contradiction to the assumption that the social and emotional adjustment should be alarmingly bad, these variables as defined above show the highest means and the smallest dispersions.

3.5 Intercorrelations, total group

Product moment correlations were computed between all test variables and ratings. In order to study the relationship between cognitive and emotional variables, matrices for correlations within and between domains of tests were set up. The results for the total group of pupils are shown in the following tables. The first figure in each cell of the matrices is the number of pupils. The second figure is the product moment correlation coefficient.

Table 11. Language variables

	Listening comprehension	Reading comprehension	Dictation	Free writing	Pronunciation	Free speaking	$\bar{r}_i$
Listening comprehension		1250 .50	1140 .49	1042 .43	246 .54	214 .50	.49
Reading comprehension	-		1087 .71	1025 .63	231 .50	209 .47	.56
Dictation	-	-		981 .71	240 .55	207 .55	.60
Free writing	-	-	-		212 .60	190 .64	.60
Pronunciation	-	-	-	-		226 .78	.59
Free speaking	-	-	-	-	-		.59

$\bar{r}$ = .57 Range = .43 - .78

Table 11 shows intercorrelations between the language tests. Row means, mean for the whole matrix and range are given.

The matrix is fairly homogenous and all coefficients except two are $\geq .50$. This is the normal shape of a matrix of correlations between language variables (Ekstrand, 1964; Henricsson, 1968). Perhaps the coefficients are somewhat smaller than those usually found. When correlations were run for subgroups, it turned out that the matrix mean for pupils having been 2 or more years in Sweden was .42 and for those having been here 0-8 months it was .64. This is difficult to explain, but is the only major difference found in the break-down. The result then, seems rather normal.

Table 12. Adjustment variables (teacher judgements)

	Progress in school	Social adjustment	Emotional adjustment	Progress in Swedish	$\bar{r}$
Progress in school	X	1867 .40	997 .46	1263 .58	.48
Social adjustment	-	X	1017 .69	1264 .42	.50
Emotional adjustment	-	-	X	681 .54	.56
Progress in Swedish	-	-	-	X	.51

$\bar{r} = .52$ Range = .40 - .69

Table 12 shows the same kind of data for the adjustment variables, i.e. the teacher judgements. These coefficients are somewhat lower than those of the language tests.

Table 13 shows the correlations between the intelligence tests. They are almost identical with the coefficients reported from the standardization, which was carried out on large samples (Härnqvist, 1962).

Table 13. Intelligence variables

	DBA 4 (R)	DBA 7 (S)	DBA 8 (N)	$\bar{r}$
DBA 4 (R)	X	247 .34	247 .29	.32
DBA 7 (S)	-	X	258 .35	.35
DBA 8 (N)	-	-	X	.31

$\bar{r} = .33$ Range = .29 - .35

Tables 14-16 show the intercorrelations between the reading tests. They are fairly high, which they should be.

Table 14. Reading tests. Time used.

Test	1	2	3	$\bar{r}$
1		1317 .66	1262 .77	.72
2	-		1268 .75	.71
3	-	-		.76

$\bar{r}$ = .73 Range = .66 - .77

Table 15. Reading tests. Number of words read

Test	1	2	3	$\bar{r}$
1		1333 .73	1274 .81	.77
2	-		1277 .71	.72
3	-	-		.76

$\bar{r}$ = .75 Range = .71 - .81

Table 16. Reading tests. Number of errors

Test	1	2	3	$\bar{r}$
1		1330 .79	1273 .77	.78
2	-		1275 .73	.76
3	-	-		.75

$\bar{r}$ = .76 Range = .73 - .79

Table 17. Language variables against adjusiment variables

	Progress in school	Social adjustment	Emotional adjustment	Progress in Swedish	$\bar{r}$
Listening comprehension	1241 .13	1259 .07	692 .15	892 .15	.13
Reading comprehension	1206 .18	1232 .11	569 .16	872 .31	.19
Dictation	1089 .17	1094 .08	593 .12	796 .24	.15
Free writing	984 .24	1003 .15	564 .19	733 .31	.22
Pronunciation	232 .25	239 .23	129 .23	144 .32	.26
Free speaking	210 .23	213 .14	117 .17	128 .24	.20
$\bar{r}$	.20	.13	.17	.26	

$\bar{r}$ = .19 Range = .07 - .32

Table 18. Intelligence against language variables

	Listening comprehension	Reading comprehension	Dictation	Free writing	Pronunciation	Free speaking	$\bar{r}$
DBA 4 (R)	262 .27	256 .44	248 .46	211 .41	116 .27	30 .22	.34
DBA 7 (N)	267 .23	261 .34	255 .34	224 .35	46 .16	32 .14	.26
DBA 8 (S)	702 .13	399 .28	699 .26	529 .25	146 .09	122 .02	.17
$\bar{r}$	.21	.35	.35	.34	.17	.12	

$\bar{r}$ = .26 Range = .02 - .46

Table 19. Intelligence against adjustment variables

	Progress in school	Social adjustment	Emotional adjustment	Progress in Swedish	$\bar{r}$
DBA 4 (R)	233 .14	236 .11	121 .01	168 .20	.12
DBA 7 (N)	244 .05	245 .10	130 .06	176 .18	.10
DBA 8 (S)	668 .10	681 .09	370 .13	494 .14	.11
$\bar{r}$	.09	.10	.07	.17	

$\bar{r}$ = .11 Range = .01 - .20

Intercorrelations between the language, adjustment and intelligence domains are shown in tables 17-19. They are all surprisingly low, the matrix mean for language by adjustment variables being .19, for intelligence by language variables .26 and for intelligence by adjustment variables .11. From a closer inspection, it is clear that our social and emotional adjustment variables correlate only .13 and .17 with the language tests and .10 respectively .07 with the intelligence tests.

Of the adjustment variables, progress in Swedish has the highest correlation or .26 with the language tests. Of the intelligence variables, the R factor test correlates the highest, or .34 with the language tests.

The correlations between the reading tests and the other domains follow the same general pattern and need not take up space here. As they can be seen in table 20, only a few comments need to be made. The correlations with the language tests split up in two types. Correlations between the reading tests and language skills, requiring reading skill, are substantial, .41 - .49. The correlations between the reading tests and the listening, pronunciation and speaking tests are lower, .28 - .31, which is perfectly reasonable.

As the better readers tend to read more words and have fewer errors and use less time, errors and time correlate negatively with number of words read, and all other variables. The reading test correlations with the adjustment variables are very low, .07 - .12, and with the intelligence tests they are low, .17 - .19.

All intercorrelations are shown in table 20.

Table 20. Intercorrelations between 24 variables (explanations of variable codes are given on page 11 (table 4)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1		1867 .40	397 .46	1263 .58	1241 .12	1206 .18	1184 -.05	1193 .11	1194 -.19	1182 -.07	1189 .08	1187 -.20	1132 -.09	1138 .10	1138 -.19	233 .14	244 .05	668 .10	1039 .17	984 .24	238 .26	117 .34	210 .23	89 .25
2			1017 .69	1264 .42	1259 .07	1232 .10	1207 .01	1218 .02	1218 -.10	1206 -.05	1214 .02	1212 -.13	1153 -.05	1161 .04	1161 -.13	236 .11	245 .10	681 .09	1094 .08	1003 .15	239 .23	118 .23	213 .14	91 .20
3				681 .54	692 .15	669 .16	664 -.01	667 .07	666 -.19	661 -.08	664 .02	663 -.16	631 -.09	634 .09	634 -.14	121 .01	130 .06	370 .13	593 .12	564 .19	129 .22	69 .16	117 .17	53 .14
4					892 .15	872 .31	873 -.13	879 .18	880 -.26	870 -.16	876 .13	874 -.26	838 -.17	844 .16	843 -.24	168 .20	176 .18	494 .14	796 .24	733 .31	144 .32	58 .30	128 .24	46 .32
5						1250 .51	1214 -.30	1223 .21	1224 -.36	1211 -.31	1219 .16	1216 -.34	1159 -.30	1166 .24	1165 -.30	262 .27	267 .23	702 .13	1140 .49	1042 .43	246 .54	126 .44	214 .50	94 .49
6							1216 -.37	1226 .51	1227 -.48	1216 -.49	1225 .38	1223 -.55	1173 -.55	1181 .58	1180 -.48	256 .44	261 .34	699 .28	1087 .71	1025 .63	238 .50	114 .54	209 .47	86 .54
7								1327 -.34	1326 .33	1317 .66	1321 -.22	1318 .32	1262 .77	1263 -.42	1262 .33	238 -.13	253 -.16	692 -.14	1074 -.37	1023 -.35	240 -.14	119 -.26	207 -.19	88 -.26
8									1338 -.21	1323 -.57	1333 .72	1330 -.42	1266 -.44	1274 .81	1273 -.19	243 .15	258 .18	702 .15	1086 .40	1032 .32	244 .29	123 .21	210 .24	91 .35
9										1323 .37	1333 -.14	1330 .79	1266 .43	1274 -.28	1273 .77	243 -.27	258 -.29	703 -.22	1086 -.57	1033 -.52	243 -.40	123 -.35	209 -.33	91 -.25
10											1326 -.40	1323 .47	1268 .75	1267 -.62	1266 .35	240 -.09	255 -.08	692 -.15	1078 -.45	1029 -.40	241 -.34	121 -.33	208 -.38	90 -.44
11												1333 -.26	1269 -.28	1277 .71	1276 -.09	243 .09	258 -.01	703 .06	1086 .32	1035 .24	243 .20	123 .14	209 .26	91 .24
12													1267 .45	1275 -.45	1275 .73	243 -.29	258 -.30	702 -.17	1084 -.35	1033 -.52	243 -.46	123 -.35	209 -.41	91 -.37
13														1270 -.49	1269 .45	237 -.16	251 -.22	691 -.24	1049 -.56	1007 -.51	227 -.30	118 -.33	198 -.35	88 -.41
14															1279 -.18	240 .18	254 .11	696 .12	1056 .48	1012 .34	229 .24	120 .27	199 .29	89 .40
15																240 -.36	254 -.38	695 -.22	1055 -.56	1011 -.55	229 -.37	120 -.33	199 -.32	89 -.25
16																	247 .34	247 .29	240 .40	211 .41	46 .27	31 .27	30 .22	16 .19
17																		258 .35	255 .34	224 .35	46 .16	27 -.13	32 .14	14 -.36
18																			699 .26	629 .25	146 .09	74 -.12	122 .01	51 -.24
19																				981 .71	240 .55	117 .53	207 .55	85 .57
20																					212 .60	100 .56	190 .64	78 .60
21																						131 .97	226 .78	95 .77
22																							96 .75	94 .78
23																								97 .97
24																								

24

3.6 Intercorrelations, subgroups

It may be argued that there may be substantial correlations between the adjustment and the linguistic variables in subgroups, which become zero, or next to zero, when the subgroups are combined into the total group. As the possibility cannot be excluded, the controls described in section 3.5 and 3.7 were carried out.

Correlations were computed for the following subgroups: nationality, grade, sex and length of residence in Sweden. Grade is equivalent to age, as the pupils, except a handful, are placed in the grade where they should be according to their age.

For reasons of convenience, only the average correlation coefficient for three of the matrices is given. Table 21 shows that they are very similar in size.

Table 21. Subgroup average correlations

Subgroup	Variables					
	Language Nr. of coefficients = 15		Adjustment N= 6		Language by adjustment N= 24	
	$\bar{r}$	range	$\bar{r}$	range	$\bar{r}$	range
Total	.57	.43 - .78	.52	.40 - .69	.19	.07 - .32
Finnish pupils	.54	.39 - .78	.54	.42 - .69	.07	-.14 - .15
Yugoslavian pupils	.60	.35 - .74	.49	.37 - .71	.14	-.00 - .25
Greek pupils	.45	-.13 - .69	.45	.30 - .75	.14	-.30 - .48
Spanish pupils	.57	.44 - .78	.55	.40 - .76	.28	-.07 - .48
Girls less than 8 months in Sweden	.64	.46 - .81	.51	.34 - .70	-.02	-.33 - .33
Girls more than 8 months in "	.52	.31 - .78	.53	.42 - .66	.06	-.32 - .23
Boys less than 8 months in "	.61	.52 - .81	.41	.33 - .73	.11	.05 - .21
Boys more than 8 months in "	.52	.32 - .80	.50	.39 - .69	.19	-.05 - .48
Grade 1-3	.55	.38 - .78	.52	.40 - .69	-.14	-.54 - .12
Grade 4-6	.54	.40 - .71	.52	.41 - .72	.13	.02 - .23
Grade 7-9	.55	.37 - .84	.53	.40 - .68	.25	.02 - .45

In addition to product moment correlations, the deviations between corresponding coefficients of pairs of matrices were computed. These deviations are reported as average deviations. They are a measure of the homogeneity of matrices. If the average correlation coefficients for two matrices are alike and the average deviation small, the matrices are very similar (table 22).

As correlations matrices for the various subgroups are very similar to those of the total group, only a few of them will be presented here.

Table 22. Average deviations between matrices. Language variables

Matrix for group	compared with matrix for group	Average deviations between corresponding coefficients of two matrices
Finnish pupils	Yugoslavian pupils	.10
Finnish pupils	Greek pupils	.15
Finnish pupils	Spanish pupils	.03
Yugoslavian pupils	Greek pupils	.21
Yugoslavian pupils	Spanish pupils	.06
Greek pupils	Spanish pupils	.11
Girls less than 8 months in Sweden	Girls more than 8 months in Sweden	.12
Boys " " " " " "	Boys " " " " " "	.16
Boys " " " " " "	Girls less " " " " "	.05
Boys more " " " " "	Girls more " " " " "	.11
Grade 1-3	Grade 4-6	.09
Grade 1-3	Grade 7-9	.08
Grade 4-6	Grade 7-9	.09

3.7 Within-group correlations

A further check was made by computing the within-group correlations, i.e. the group mean is subtracted from the individual values of the test variables. This means that possible differences between group means are corrected for, which is preferable, as the total correlation is a function of the correlation between group means as well as of the correlation within groups, according to the formula $r_t = r_b \omega_x \omega_y + r_w \sqrt{(1 - \omega^2_x)(1 - \omega^2_y)}$ (Löfgren, 1973). Interesting groupings in particular are age, length of residence and nationality. Instead of nationality, the population was grouped according to language family, i.e. Finnic-Ugric languages, Germanic languages, Roman languages, Slavian languages and others. The material was divided into four age groups and three groups of varying length of residence. Matrix means of within-group correlations are given in table 23, together with ordinary correlations for the total group.

The within-group correlations are practically the same as the correlations for the total group. This further confirms the conclusions of sections 3.5 and 4.2.

Table 23. Within-group correlations (matrix means) for subgroups compared with correlations for total group (matrix means)

Domain (matrix)	Ordin. corr. Total group		Within-group correlations					
			Age		Length of resid.		Lang. family	
	$\bar{r}$	range	$\bar{r}$	range	$\bar{r}$	range	$\bar{r}$	range
Language variables	.57	.43 - .78	.55	.39 - .77	.56	.39 - .76	.57	.42 - .76
Adjustment variables	.52	.40 - .69	.52	.41 - .69	.51	.40 - .69	.52	.40 - .69
Intelligence variables	.33	.29 - .35	.28	.23 - .31	.35	.31 - .37	.32	.28 - .34
Language by adjustment	.19	.07 - .32	.23	.10 - .36	.19	.06 - .34	.19	.07 - .33
Intelligence by adjustment	.26	.02 - .46	.22	-.01 - .41	.29	.15 - .46	.22	-.07 - .43
Intelligence by language	.11	.01 - .20	.13	.04 - .19	.11	-.02 - .19	.10	.01 - .20

3.8 The parents' occupations

The results in sections 3.5 and 3.6 cannot be related to differences in SES, as most of the pupils come from homes, belonging to the working class. See table 24. As indicated in the first section, the general tendency in European migration is from the countryside to the cities. This is reflected in the table 24.

Table 24. Occupations of the fathers in their native countries and in Sweden

Occupation	in Sweden		in the native country	
	n	%	n	%
Factory worker	1367	67.6	422	30.0
Other worker	130	6.4	219	15.6
Craftsman	101	5.0	219	10.0
Woodsman	60	3.0	119	8.5
Farmer, farmhand	5	0.3	109	7.8
Transport worker	8	0.4	105	7.5
Builder	55	2.7	104	7.4
Service man	14	0.7	11	0.8
Seaman, sailor	2	0.1	4	0.3
Retired	2	0.1	1	0.1
Engineer, official	79	3.9	90	6.4
Academician	27	1.3	27	1.9
Detached from fam., dead	41	2.0	39	2.8
Not in Sweden	124	6.2	-	-
Unemployed	6	0.3	7	0.4
Total	2021	100.0	1405	100.0
Number of missing data	156	7.2	772	35.5
Number of cases	2021	92.8	1405	64.5
Grand total	2177	100.0	2177	100.0

The figures of table 24 are not representative for all male immigrants in Sweden, but for the married fathers only.

4. DISCUSSION

4.1 The adjustment measurements

Much doubt may be cast on the reliability and validity of teacher ratings or judgements. However, the teachers' feelings about their pupils determine the way they handle them and their opinions therefore carry great weight. Furthermore, in many cases teacher ratings have been proved to be reasonably reliable and valid (Ekstrand, 1964; Husén, 1969), though test scores usually show better values of reliability and validity.

As far as cognitive variables like language performance and intelligence are concerned, tests have probably better metric properties, but when it comes to social and emotional variables, teacher observations can reflect holistic aspects of complex behavior and are easier to work with than tests.

In this case, we have used informal, spontaneous observations which have been quantified later. Such a procedure admittedly involve many risks. Of course, the questionnaire might have been combined with some kind of formalized check list or rating scale, but this was not done for two reasons. The questionnaire was kept as short as possible to maximize response frequency. Besides, we were not sure of which variables might be important. Matters of physical health, religion or whatever were to be given a chance to be reported, hence the rather vague wording of questions c and d. As it turns out, comments other than linguistic, social, emotional or generally educational hardly occur.

The response frequency for the four questions is 88, 89, 47 and 62 % respectively. As mentioned (see 3.3.2) there seem to be natural reasons for the low response frequency of questions c and d. The 84 point biserial coefficients for "No answer" in these questions against all test variables have a range from .06 - -.13, i.e. there does not seem to be any bias as far as language and intelligence variables are concerned.

For lack of more accurate measurements and a Swedish control group and assuming that the coding procedure did not add any bias, the following tentative conclusion may be drawn. The data do not support the comprehensions expressed by Gelinek (1974) and many others. Had the state of affairs been as bad as feared, the rating means should have been lower. It must be stressed that the evidence is not conclusive and that, even if it were, this would not mean that problems do not exist.

Looking at the percentage of bad or very bad adjustment and fair adjustment or better, we find that 33.8 % of the pupils have made bad progress at school and 66.2 % good progress, 16.8 % have poor social adjustment and

83.2 % good, 13.7 % have poor emotional adjustment and 86.3 % good and that 23.8 % of the pupils show poor progress in Swedish and 76.2 % show good progress. Keeping in mind that we must not take these figures too literally, they find some support in an investigation by JIAS, Montreal, conducted during the summer of 1973 (Goldenberg, 1973). Goldenberg surveyed 264 children of recent immigrants - 80 % of the possible population. She writes (p. 5):

It is important to note that the majority - 59.1 % were found to have no problems ... The major school problems were English, reported by 15.1 % of the children - and miscellaneous school matters including mathematics, reading ... and/or general disciplinary or school adjustment difficulties - reported by 22.7 %."

At least one other survey, then, besides the present one reports fair adjustment for the majority of a population.

Further research is badly needed, as it is most important to have a realistic understanding of the scope and nature of the adjustment difficulties in immigrant children.

4.2 The intercorrelations

The variables of each domain - language tests, teacher ratings, reading tests and intelligence tests - intercorrelate in the way that these kinds of variables normally do.

When domains are intercorrelated with each other, unexpected things happen. It is generally assumed that emotional and social adjustment is causally connected to language proficiency:

"In the family group the language of the home country is spoken, but when the child wishes to communicate with the outside world, he is faced with the inability to express himself properly. Frustration and a feeling of inferiority result, frequently causing children to withdraw from experiences in the 'outside world' and refrain from establishing emotional relationships in that world. Others, however, react aggressively and in an uncontrolled manner under this pressure, which in turn leads to a rejection, from which they suffer." (Gelinek, 1974 p. 46.)

The kind of direct relationship, assumed by Gelinek, does not seem to be supported by the present data. Social adjustment, which is the most unambiguous question with a very high response frequency correlates on an average only .13 with the language variables. Emotional adjustment, which is in many ways a more uncertain estimate, yields an average correlation with the language variables of only .17.

Why, then, do the teacher judgements, including different assessments of linguistic and socio-emotional adjustments intercorrelate as much as .52 on the average? The answer is obvious from inspection of the teacher statements: the teachers tend to judge the behavior of the pupils as a whole.

Typical statements are: "He seems very quiet and withdrawn, probably because he doesn't know the language", or "He seems very quiet and withdrawn, probably because he is shy". The teachers thus seem able to differentiate only in part between the affective and the cognitive variables. However, the highest correlations are between related variables, .69 for the two affective variables and .58 for the two cognitive variables. Furthermore, "Progress in Swedish" adequately has the highest correlations with the language variables, or .26 on average. The teacher observations may be regarded as a domain of variables of general adjustment, such as it is perceived by observers in the pupils' social environment.

The conclusion that "pure" language skills, as measured by objective tests, are not directly related to the social and emotional adjustment does not, on second thought, seem unreasonable. It may well be that the pupil with an emotionally stable personality who feels secure can successfully cope with the environment in spite of only moderate language skills. On the other hand, the emotionally unstable pupil who feels insecure and scared, may well have serious difficulties in adjusting, in spite of a very good command of language. If we accept this interpretation, further conclusions which follow are these. The acquisition of the new language may be a necessary, but is not sufficient condition for the promotion of a good overall adjustment. Language is more subtly related to behavior and the interaction with the environment than is generally assumed.

Furthermore, we must recognize that if language acquisition does not automatically promote a good adjustment to the new environment, other variables, e.g. social, emotional, cognitive, perceptual and psychomotor variables, just to mention a few likely ones, must be given attention, in research as well as in practical action taken to help those pupils who have difficulties in adjusting.

This leads us to inspect the adjustment by intelligence variables. This matrix too, reveals what might be considered surprisingly low correlations, .11 on average. The result is not, however, unreasonable. There is nothing to say that intellectual variables are correlated with emotional or social. The intelligence tests are nonverbal and should not correlate strongly with progress in Swedish. High correlations could be expected with progress in school work. But school adjustment is probably dependent on personality and affective variables more than intellectual ones.

Reading tests by adjustment variables correlate .10 on an average. Reading tests by intelligence variables correlate .18. These results seem normal, too.

The alternative possible explanations for the low correlations between domains may be summed up in the following list of hypotheses.

1. They are a statistical artifact. High subgroup correlations combine in such a way to give low correlations for the total group.
2. They are a result of inconsistent coding of the teacher answers.
3. Plots (which have to be reported in another paper) have shown that test data are correlated with the pupils' age and length of residence, while teacher judgements are not. Possibly the teachers "correct for" age and length of residence, in which case there are correlations if these two variables are kept constant.
4. The teachers tend to judge behavior as a whole, which gives judgements which are all socially and emotionally "loaded", as it were.
5. The correlations are part of a more general pattern, according to which high correlations between affective and cognitive variables are not normally found.
6. Other variables, like emotional, cognitive, perceptual, personality and cultural are as important, or more, as linguistic in the adjustment process.

The first hypothesis is rejected by the results of the breaking down of the total group into subgroups. The matrices for different subgroups are very similar to those of the total group, as shown in table 21 and fairly homogenous, as shown in table 22.

The second hypothesis, too, must be rejected, on the following grounds. The original coding was checked by sorting the unambiguous verbal teacher statements into five categories and plotting them against the coded scale values, for samples of pupils. The result was a straight line, i.e. the coders have followed the instruction consistently. All the answers for the total group of pupils was then recoded by a person not involved in the original coding procedure. The correlations between coding and recoding were for the four questions .81, .77, .75 and .77, respectively, calculated on a sample of 200 pupils.

The third hypothesis is rejected on the same grounds as hypothesis one. The matrices within subgroups, according to age and length of residence, are the same as for the total group. These two variables cannot explain correlation or lack of correlation between other variables and the teacher observations.

Hypothesis four cannot be rejected. It remains a likely though not sufficient explanation. The fifth hypothesis cannot be proved or disproved, but gains some support in the following line of reasoning. Of course, the

mechanisms of linguistic and other kinds of adjustment, such as emotional, social, perceptual and cognitive, should be further explored. Objective methods should be used, which involves laborious work with construction, translation and administration of instruments.

In the meantime, it is of interest to have an idea of the order of magnitude of correlations between affective and cognitive variables generally found. Svensson (1971) computed 672 coefficients between on the one hand school adjustment and interest in spare time activities and on the other relative achievement in school subjects for large samples of boys and girls in the Swedish elementary school. They are typically very low, more than 75 % are between $\pm$ .10 and none above $\pm$ .30. Aiken (1970) has covered more than 70 studies on the relationship between attitudes to and achievement in mathematics and finds that "measures of anxiety and attitudes toward school subjects typically have rather low correlations with measures of intellectual ability" (p. 564). Neale (1969) discusses the role of attitudes in learning mathematics and reports correlations from several studies, with the same result as the previous reference. The present author has found low correlations between attitudes to, and achievement in, English at the elementary school level and physics at high school level (unpublished data).

In fact, the present author knows of no instance of more substantial correlations between affective and cognitive variables. If hypothesis 5 is true, other factors than migration may well lie behind disturbances among immigrant children (Rodrigues et al., 1967).

The sixth hypothesis can neither be proved nor disproved in this investigation. There is much cross-cultural research going on all over the world, which will no doubt cast further light on the complexity of migrant adaptation, see e.g. Price-Williams (1969), Al-Issa & Dennis (1970), and Ekstrand (1975). Also much work within social anthropology is of interest, especially Hall's ten Primary Message Systems (Hall, 1959, 1966). He shows ten systems of cultural variables to be fundamental for the description and analysis of cultural differences and how they have non-verbal, communicative importance besides language.

It is quite possible that the hypotheses 4-6 are all valid and combine to give the results obtained.

To sum up the discussion, there is much evidence which suggests that the analysis of migrant adjustment in linguistic terms only is a far too narrow perspective, however important language may be. The problem is an immensely complex one and must be analyzed as such.

5. SUMMARY

This paper presents some results from a pilot study of the adjustment of immigrant children. The main objective was to study variables of importance for the linguistic adjustment, but some data on the social and emotional adjustment were obtained as well. The results presented here are concerned with the latter kind of data and with the relationship between different kinds of adjustment.

A population of about 2,400 children, who immigrated to Sweden and were given tuition in Swedish in the comprehensive school was mapped, by a questionnaire to all schools. Questionnaire data from the teachers were obtained for 2,188 pupils and test data were obtained for groups of varying size for different tests. There were six tests in Swedish, three reading skill tests, three intelligence tests, belonging to the Thurstone R, S and N factors and teacher assessments in four variables.

The children are distributed rather evenly over the grades 1-7, with a diminishing number in grades 8 and 9. 36 nations are represented. 62 % of the pupils come from Finland, 16 % from Yugoslavia, 5 % from Greece, 2.6 % from USA, 2 % from Italy and Hungary, the rest being distributed over the remaining 30 nations.

The teacher observations were quantified and coded in a five-point scale where 1 is a very bad and 5 is a very good adjustment. The result shows average Progress in school ($\bar{x} = 2.95$), better than average Social adjustment ($\bar{x} = 3.5$), better than average Emotional adjustment ($\bar{x} = 3.5$) and average Progress in Swedish ($\bar{x} = 3.2$). These data do not support comprehensions of particularly poor social and emotional adjustment among immigrant pupils. It must, however, be stressed that the adjustment data are impaired by uncertainties and that no Swedish control group was examined.

The intercorrelations between the language tests are .57 on average, .52 for the adjustment assessments, .33 for the intelligence tests, and .73, .75 for three different measures of the three reading tests. These results are all normal and expected.

The intercorrelations between language by adjustment variables are .19 only on the average, .26 for intelligence by language variables, .11 for intelligence by adjustment variables, .37 for reading tests by language variables, .12 for reading tests by adjustment variables and .18 for reading by intelligence tests.

These coefficients are surprisingly low. On the basis of the often suggested relationship between language skill and emotional and social adjustment, one would have expected much higher correlations between language by adjustment variables and intelligence by adjustment variables.

The assumed relationship is thus not supported by the present data. Various checks on possible statistical and other sources of error are reported, but the results remain the same.

It turns out that a study of other data on the relation between cognitive and affective variables shows that different studies generally yield low correlations, contrary to what is often believed.

It is concluded that the problem of migrant adaptation is far more complex than is often assumed and that other variables than language, like social, emotional, cognitive, perceptual, psychomotor, personality and cultural variables, are involved and may be as important as language. This has consequences for research as well as far practical work. Language teaching, e.g., is not enough as a means to adjustment. Other action must be taken as well. This is not normally done.

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